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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,241	03/08/2007	Donald James Highgate	GJE.7555	9552

23557 7590 08/19/2011

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EXAMINER	
CHERN, CHRISTINA	
ART UNIT	PAPER NUMBER
1725	

NOTIFICATION DATE	DELIVERY MODE
08/19/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

euspto@slepatents.com

Office Action Summary	Application No.	Applicant(s)	
	10/568,241	HIGHGATE ET AL.	
	Examiner	Art Unit	
	CHRISTINA CHERN	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 February 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1 and 4-22** are rejected under 35 U.S.C. 102(b) as being anticipated by Chiba et al. (US 2002/0134426) and evidenced by Cadena et al. (US 2004/0010074) and evidenced by Sigma-Aldrich (provided with this Office Action).

Regarding **claim 1**, Chiba discloses a photovoltaic cell (**[0023]**; see **Figure 1**) comprising a membrane electrode assembly (electrodes **10 and 20** and membrane **6**) capable of transmitting light (it is inherent a photovoltaic cell is capable of transmitting light; it is also disclosed the substrate **1** and electroconductive film **2** are transparent; **[0025]**),

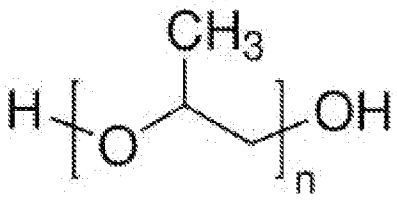
wherein the membrane electrode assembly comprises a membrane (**6**),

wherein the membrane is a material comprising a hydrophilic polymer (the hole transporting layer **6** is disclosed to be a solid electrolyte such as polyethylene oxide or polypropylene oxide (**[0065 and 0067]**), where both polymers are hydrophilic, as evidenced by Cadena (**[0160]**)),

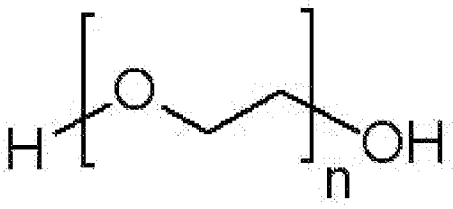
wherein the hydrophilic polymer comprises a strongly ionic group, and

wherein the strongly ionic group is a sulphonic acid group, an OH group, or a phosphoric or phosphonic acid group (as evidenced by the figures from Sigma-Aldrich below).

Poly(propylene glycol)



Poly(ethylene oxide)



Regarding **claim 4**, Chiba discloses all the claim limitations as set forth above, and further discloses the polymer is cross-linked (the solid electrolyte is disclosed to be a polymer compound and a crosslinked product; **[0067]**).

Regarding **claim 5**, Chiba discloses all the claim limitations as set forth above, and further discloses the membrane is a malleable material (it is disclosed the polymer comprises a polymer functional group and a polymer side chain (**[0067]**), which means the membrane would have some degree of flexibility and malleability).

Regarding **claim 6**, Chiba discloses all the claim limitations as set forth above, and further discloses the membrane electrode assembly is in the form of a stack (see **Figure 1**).

Regarding **claims 7 and 8**, Chiba discloses all the claim limitations as set forth above, and further discloses the membrane electrode assembly comprises a catalyst (**8**), wherein the catalyst comprises platinum and/or titanium dioxide (**[0064]**).

Regarding **claims 9 and 10**, Chiba discloses all the claim limitations as set forth above, and further discloses the membrane comprises a channel suitable for the

transmission of light and the membrane is optically transparent (it is disclosed the membrane comprises a transparent polymer; **[0065]**).

Regarding **claim 11**, Chiba discloses all the claim limitations as set forth above, and further discloses the membrane electrode assembly comprises a dye sensitizer (it is disclosed a dye is absorbed on the photovoltaic layer **3**; **[0023]**).

Regarding **claim 12**, Chiba discloses all the claim limitations as set forth above, and further discloses the membrane electrode assembly is planar in structure (see **Figure 1**).

Regarding **claim 13**, Chiba discloses all the claim limitations as set forth above, and further discloses an electrode of the membrane electrode assembly is transparent (**[0024-0025]**).

Regarding **claim 14**, Chiba discloses a method for generating a voltage, wherein said method comprises irradiating a photovoltaic cell (**[0023]**; see **Figure 1**) comprising a membrane electrode assembly (electrodes **10 and 20** and membrane **6**) capable of transmitting light (it is inherent a voltage is generated when a photovoltaic cell is exposed to radiation. it is also inherent a photovoltaic cell is capable of transmitting light; it is also disclosed the substrate **1** and electroconductive film **2** are transparent; **[0025]**),

wherein the membrane electrode assembly comprises a membrane (**6**),

wherein the membrane is a material comprising a hydrophilic polymer (the hole transporting layer **6** is disclosed to be a solid electrolyte such as polyethylene oxide or

polypropylene oxide (**[0065 and 0067]**), where both polymers are hydrophilic, as evidenced by Cadena (**[0160]**)),

wherein the hydrophilic polymer comprises a strongly ionic group, and

wherein the strongly ionic group is a sulphonic acid group, an OH group, or a phosphoric or phosphonic acid group (as evidenced by the figures from Sigma-Aldrich above).

It is noted that statements in the preamble reciting the purpose or intended use of the claimed invention which do not result in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art do not limit the claim and do not distinguish over the prior art apparatus (or process). See, e.g., *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963); *In re Sinex*, 309 F.2d 488, 492, 135 USPQ 302, 305 (CCPA 1962). If a prior art structure is capable of performing the intended use as recited in the preamble, then it meets the claim. See, e.g., *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) and cases cited therein, as it has been held that the recitation of a new intended use for an old product does not make a claim to that old product patentable. *In re Schreiber*, 44 USPQ2d 1429 (Fed. Cir. 1997). See also MPEP § 2111.02, §2112.02 and 2114-2115.

Regarding **claim 17**, Chiba discloses all the claim limitations as set forth above, and further discloses the membrane electrode assembly comprises a catalyst (**8**; **[0064]**).

Regarding **claims 18 and 19**, Chiba discloses all the claim limitations as set forth above, and further discloses the membrane comprises a channel suitable for the

transmission of light and the membrane is optically transparent (it is disclosed the membrane comprises a transparent polymer; **[0065]**).

Regarding **claim 20**, Chiba discloses all the claim limitations as set forth above, and further discloses the membrane electrode assembly comprises a dye sensitizer (it is disclosed a dye is absorbed on the photovoltaic layer **3**; **[0023]**).

Regarding **claims 21 and 22**, Chiba discloses all the claim limitations as set forth above, and further discloses the membrane electrode assembly is configured to function as a light waveguide (it is inherent the membrane electrode assembly is configured to function as a light waveguide due to the different compositions of each layer in the assembly, which each has an inherent refractive index that is different from one another, and therefore will function as a light waveguide).

Response to Arguments

3. Applicant's arguments with respect to claims 1 and 4-22 have been considered but are moot in view of the new ground(s) of rejection.

Applicants also argue that Chiba does not disclose a hydrophilic polymer comprising a strongly ionic group as claimed. However, Chiba discloses a hydrophilic polymer comprising a strongly ionic group such as polypropylene oxide or polyethylene oxide, as set forth in the Office Action above.

It is noted that the affidavit filed on 6/16/2011 under 37 CFR 1.131 and the contents discussed in the interview with Louis Frank (#60,034) on 8/9/2011 (see Interview Summary) are sufficient to overcome the 35 U.S.C. 112, first paragraph,

rejection as failing to comply with the enablement requirement and, therefore, the rejection has been withdrawn.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINA CHERN whose telephone number is (571)270-1486. The examiner can normally be reached on Mon.-Fri., 9:00 AM-5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Basia Ridley can be reached on (571) 272-1453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTINA CHERN/
Examiner, Art Unit 1725

/Basia Ridley/
Supervisory Patent Examiner, Art Unit 1725